



THIRD SPACE
LEARNING

Mathematics

Paper 2

(Calculator)

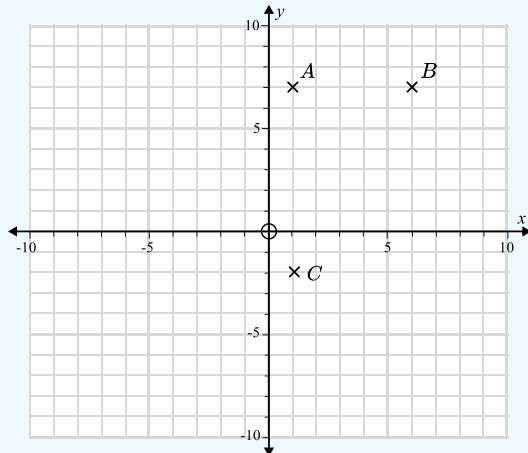
Foundation Tier

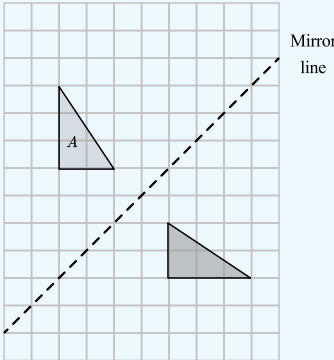
Mark Scheme

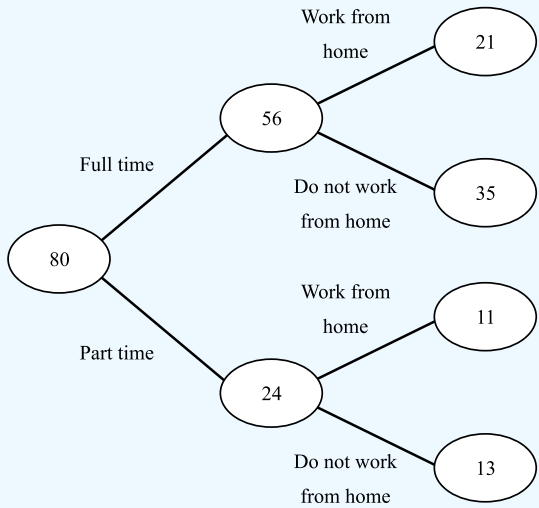
Edexcel GCSE

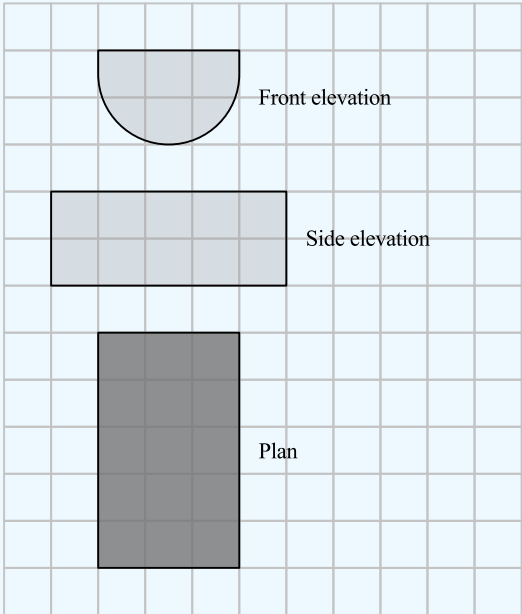
SET 4

Question	Working	Answer	Notes
Q1		1690	A1 cao
Q2		Any even 3-digit number	A1 cao
Q3	$4.5 \times 100 = 450$	450cm	A1 cao
Q4		$\frac{47}{100}$	A1 cao
Q5		2401	A1 cao
Q6a		10cm	A1 cao
Q6b		121°	A1 Accept angle in the range 120°-122°
Q7	Arrives at the beach at 10.35am Pays for 2 hours parking She must leave by 12:35pm	12:35pm	M1 10.35 seen M1 2 hours parking A1 12.35 (pm)
Q8		$\frac{1}{3} = 0.3333333\dots$ Or $0.3 = \frac{3}{10}$ which is not the same as $\frac{1}{3}$	B1 Correct explanation
Q9a		(1,7)	A1 cao

Question	Working	Answer	Notes
Q9b			A1 cao
Q9c		$(6, -2)$	M1 $(6, a)$ or $(b, -2)$ A1 cao
Q10a		17	A1 cao
Q10b	Largest number: 22 Smallest number: 9 $22 - 9 = 13$	13	M1 22 or 9 seen A1 cao
Q10c	14 bookings in January $14 + 12 + 9 + 17 + 22 + 11 = 85$	$\frac{14}{85}$	M1 Attempt to find total number of bookings A1 $\frac{14}{85}$ oe
Q11	E35#, E53#, E3#5, E5#3, E#35, E#53	E35#, E53#, E3#5, E5#3, E#35, E#53	M1 4 distinct possibilities listed A1 6 distinct possibilities with no repeats

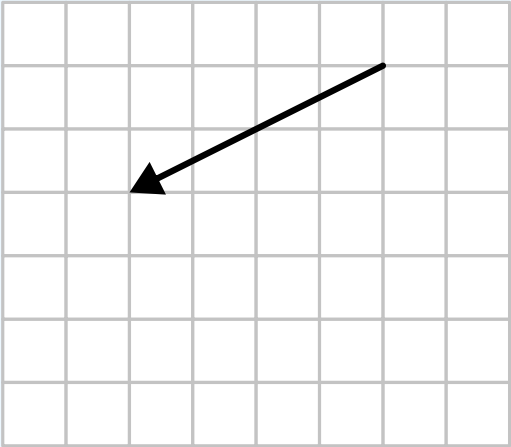
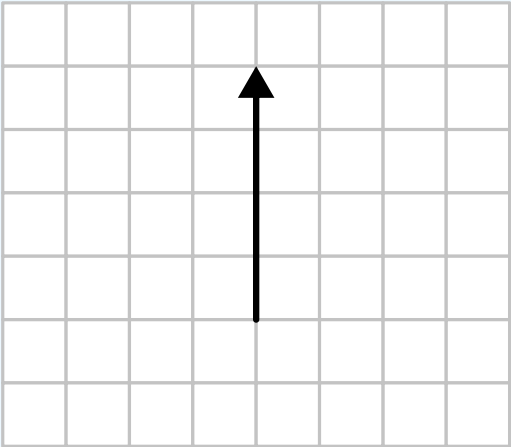
Question	Working	Answer	Notes																						
Q12		See diagram	M1 At least 2 vertices correct A1 Fully correct reflection (labelled B)																						
Q13	$3.5 \times 12 = 42$	42 (hours)	M1 3.5×12 seen A1 cao																						
Q14a	<table><tr><td>0</td><td>7</td><td>8</td><td>9</td></tr><tr><td>1</td><td>0</td><td>1</td><td>3</td><td>6</td><td>7</td></tr><tr><td>2</td><td>1</td><td>2</td><td>3</td><td>3</td><td>8</td></tr><tr><td>3</td><td>0</td><td>1</td><td></td><td></td><td></td></tr></table> <div>Key: 2 1 = 21</div>	0	7	8	9	1	0	1	3	6	7	2	1	2	3	3	8	3	0	1				See diagram	M1 Stems and at least 12 leaves correctly placed A1 All values correct and ordered A1 A correct key
0	7	8	9																						
1	0	1	3	6	7																				
2	1	2	3	3	8																				
3	0	1																							
Q14b	$31 - 7 = 24$	24	A1 cao																						
Q15	4 pack: 12 pairs of socks for £9 120 pairs of socks for £90 10 pack: 20 pairs of socks for £17 120 pairs of socks for 102 Or $9 \div 12 = \text{£}0.75$ per pair $7 \div 20 = \text{£}0.85$ per pair	Offer A	M1 12 pairs of socks for £9 and 20 pairs of socks for £17 M1 Compares using a suitable method A1 Offer A, following correct working																						

Question	Working	Answer	Notes
Q16	$384 \div 2.4 = 160$ $160 \times 4 = 640m$	$640m$	M1 $384 \div 2.4$ M1 160×4 A1 cao
Q17	Adam: A Ben: $2A$ Laura: $2A + 3$ $T = A + 2A + 2A + 3$ $T = 5A + 3$	$T = 5A + 3$	M1 $2A$ or $2A + 3$ seen M1 Attempt to add their 3 terms A1 $T = 5A + 3$
Q18a		See diagram	M1 80, 56 and 24 correctly placed M1 $\frac{3}{8}$ of 56 = 21 M1 40% of 80 = 32 M1 At least 5 values correct A1 All correct
Q18b		$\frac{11}{24}$	B1 Numerator or denominator correct B1 Fully correct

Question	Working	Answer	Notes
Q19		See diagram	B1 One correct side length B1 3×5 rectangle
Q20a	$7 - 3 = 4$	p^4	A1 cao
Q20b	$3 \times 5 = 15$	q^{15}	A1 cao
Q20c		$2 \times 3 = 6$ so it should be $6x^7$	B1 correct explanation
Q21	5 litres of blue paint = £17.50 1 litre of blue paint = $£17.50 \div 5 = £3.50$ $£3.50 \div 5 \times 6 = £4.20$ 1 litre of yellow paint = £4.20 $£4.20 \times 8 = £33.60$	£33.60	M1 1 litre of blue paint = £3.50 M1 Divides by 5 M1 Multiplies by 6 A1 cao

Question	Working	Answer	Notes
Q22	$6x + 12 = 10x - 6$ $18 = 4x$ $x = 4.5$	$x = 4.5$	M1 Expands brackets. Condone 1 error M1 Isolates term in x A1 cao
Q23a	Factors of 48: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48 Factors of 72: 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72	24	M1 Lists the factors of 48 and 72 or draws prime factor trees A1 cao
Q23b	32, 64, 96, 128, 160, ... 40, 80, 120, 160, ...	160	M1 Lists the multiples of 32 and 40 or draws prime factor trees A1 cao
Q24	$\sin(42) = \frac{7.2}{x}$ $x = \frac{7.2}{\sin(42)} = 10.76023116$	10.8	M1 $\sin(42) = \frac{7.2}{x}$ oe A1 cao
Q25a	$\frac{1}{0.4} = 2.5$	2.5	A1 cao
Q25b		$225 \leq x < 235$	B1 Lower bound correct B1 Upper bound correct

Question	Working	Answer	Notes
Q26	$3t + 4c = 10.80$ $2t + 5c = 11.40$ $6t + 8c = 21.60$ $6t + 15c = 34.20$ $7c = 12.60$ $c = £1.80$ $3t + 4 \times 1.80 = 10.80$ $3t = 3.60$ $t = £1.20$ $4t + c = 4 \times 1.20 + 1.80$ $= £6.60$	£6.60	M1 Forms 2 equations M1 $t = 1.2(0)$ or $c = 1.8(0)$ seen M1 $t = 1.2(0)$ and $c = 1.8(0)$ seen M1 Substitutes 'their' values for total cost, $4 \times 1.20 + 1.80$ A1 cao
Q27	Planet B $9.05 \times 10^{11} = \frac{4}{3}\pi r^3$ $r = \sqrt[3]{\frac{9.05 \times 10^{11}}{4 \times 10^3}} = 6000.489175$ $\frac{6000.489175}{4 \times 10^3} = 1.500122294$	1.5	M1 $9.05 \times 10^{11} = \frac{4}{3}\pi r^3$ A1 Radius $B = 6000$ M1 Divides by 4000 to find scale factor A1 cao

Question	Working	Answer	Notes
Q28a		See diagram	A1 cao
Q28b		See diagram	A1 cao
Q29	60% of 80% = 48%	48%	M1 60% of 80% seen or indicated A1 cao

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